

CAZONEA 93E01

Ontario. Environmental Assessment Board.

EP-92-01

TOWN OF FORT ERIE - BRIDGE STREET LANDFILL... 1993.

CAZONEA 93E01



ENVIRONMENTAL ASSESSMENT BOARD

EP-92-01

TOWN OF FORT ERIE - BRIDGE STREET LANDFILL

DECISION AND REASONS FOR DECISION

IN THE MATTER OF sections 30 and 33 of the *Environmental Assessment Act*, R.S.O. 1990, c. E.19, and the *Intervenor Funding Project Act*, R.S.O. 1990, c. I.13;

- and -

IN THE MATTER OF an application by The Corporation of the Town of Fort Erie to continue the use of the Bridge Street Landfill for a further five year interim period without increasing the approved height and/or capacity of the site. The landfill is located in Part of Lots 7 and 8, Concession 4, Niagara River, in the Town of Fort Erie, with access from Bridge Street.

BEFORE: Len Gertler - Chair
Alan Roy - Member

DATED at TORONTO this 14TH day of JANUARY, 1993.

2300 Yonge Street
Suite 1201
Toronto, Ontario M4P 1E4
Tel: (416) 323-4806

Earth Sciences Library

TABLE OF CONTENTS

	PAGE
REASONS FOR DECISION	2
I. INTRODUCTION, OVERVIEW, ISSUES	2
1. Background	2
2. Preliminary Hearing and Preparatory Processes	3
II. ADDRESSING THE ISSUES	4
1. Environmental Suitability of the Landfill Site	5
(i) Physiography of the Site	5
(ii) Monitoring of Impacts: Ground and Surface Water	5
(iii) Control and Contingency Plans	8
1(a) Environmental Suitability - A Specific Case on Thompson Road	9
2. The Site Capacity Issue and Waste Management	10
(i) Site Limits, Site Life, & EA Act Exemption Order, Nov. 20/91	10
(ii) The Waste Management Context: Diversion and the 3 Rs . . .	11
(iii) Public Liaison and Involvement in Waste Management	12
3. Status of the Waste Management Master Plan for Fort Erie and Neighbouring Communities	13
III. EVALUATION AND CONCLUSION	15
IV. DECISION	17

APPENDIX A - Conditions of Approval for Provisional Certificate of Approval for a Waste Disposal Site, No. 120501

APPENDIX B - Waste Diversion Initiatives, October 6, 1992 - Town of Fort Erie

APPENDIX C - Chronology of Major Events for Fort Erie/Port Colborne Waste Management Master Plan

EXHIBITS LIST

ILLUSTRATIONS REFERRED TO IN TEXT:

1. Map 1
2. Map 2
3. Exhibit 21 - Profile - Top Soil, Overburden, Bedrock
4. Exhibit 20 - Site Instrumentation
5. Exhibit 25 - Surface Water Monitoring
6. Exhibit 26 - Water Well Survey
7. Exhibit 23 - Groundwater Flow (Overburden Aquifer)
8. Exhibit 24 - Groundwater Flow (Bedrock Aquifer)
9. Exhibit 24(a) - Groundwater Flow (Bedrock Aquifer)
10. Exhibit 29 - Summary of Private Well Water Quality
11. Exhibit 19 - re: Christensen Property
12. Exhibit 35 - Watershed Map



Digitized by the Internet Archive
in 2025 with funding from
University of Toronto

<https://archive.org/details/31761056888118>

IN THE MATTER OF sections 30 and 33 of the *Environmental Protection Act*, R.S.O. 1990, c. E.19, and the *Intervenor Funding Project Act*, R.S.O. 1990, c. I.13;

- and -

IN THE MATTER OF an application by The Corporation of the Town of Fort Erie to continue the use of the Bridge Street Landfill for a further five year Interim period without increasing the approved height and/or capacity of the site. The landfill is located in Part of Lots 7 and 8, Concession 4, Niagara River, in the Town of Fort Erie, with access from Bridge Street.

BEFORE: Len Gertler - Chair
 Alan Roy - Member

APPEARANCES:

Stuart Ellis - for the Town of Fort Erie
 Frank Mencarelli - for the Ministry of the Environment
 Dianne Giliforte - for the Bridge Street Landfill Public Liaison
 Committee, and Pettit Road Residence Committee

WITNESSES:

David Schram - Proctor & Redfern Limited
 Nancy Jean Rennie - Dames & Moore, Canada
 Brian W. Beatty - Dames & Moore, Canada
 Chris Caers - Proctor & Redfern Limited
 Stephen Janes - S.H. Janes & Associates Ltd.
 William Slack - Town of Fort Erie
 Mark Burgham - Ministry of the Environment
 Paul Nieweglowski - Ministry of the Environment
 William Blackport - Ministry of the Environment

REASONS FOR DECISION

I. INTRODUCTION, OVERVIEW, ISSUES

1. Background

The Bridge Street Landfill, which serves the Town of Fort Erie, is located northwest of the Town, approximately 1.5 kilometres from the downtown centre, and 2 kilometres from the Niagara River to the north, and about 2.5 kilometres from the River to the east (Site Location, Map 1). The surrounding land uses are predominantly agricultural to the north and west of the site; and mixed recreational and industrial to the south and east. The closest residences are located mainly on large sites on the western boundary road, Pettit Road, and from 800 to 1000 metres to the east on Thompson and Bowen Roads (Land Use, Map 2). The site has been receiving the solid wastes of the Town for approximately twenty years, since it was opened in 1972. The population of the Town in 1992 was approximately 26,000.

The status, environmental condition, and management of the site was comprehensively reviewed in a hearing (October, 1988) and decision (January 16, 1989) of this Board. The matter before the Board was an Application of the Town of Fort Erie for a Certificate of Approval for the expansion of the Bridge Street Landfill site for the purpose of extending the solid waste disposal capacity for an interim period of five years.

The decision of the Board:

- (a) confirmed, after reviewing alternatives, that expansion to the north of the existing landfill area was the best interim option for meeting the waste management needs of the Town;
- (b) approved the application of the Town to operate the Bridge Street Landfill, specifying a site life of 3 years, rather than 5, in accordance with the EA Exemption Order of March, 1986.

- (c) included an Appendix A, providing the basis for a Certificate of Approval (#A120501, May 26, 1989), which (i) restricted disposal to "domestic, commercial, non-hazardous solid industrial and other wastes (limited to sewage sludges)"; (ii) limited the allowable waste quantity for disposal in the Landfill Site to 72,300 tonnes (178,000 in-site cubic metres including daily and interim cover but not final cover); (iii) specified periodic monitoring and reporting programs concerned with impacts on ground and surface water; and (iv) identified required storm water management, and pollution control contingency plans.

On the basis of the Board's January, 1989 decision an expansion area of 4 hectares was approved, creating a waste disposal fill area of 18 hectares, within an approved total site area of 65 hectares. The remaining 47 hectares surrounding the fill area on the east, west, and north is a (mainly wooded) buffer area.

In the subsequent EA Exemption Order of November 20, 1991 the waste disposal limits - "the interim contour limits" - of the May, 1989 Certificate of Approval were reconfirmed.

Since April, 1988 there has been a Town ban, by means of a prohibiting by-law on the disposal of commercial and industrial waste at the Bridge Street Landfill. Nevertheless, the 1992 application to the Director of Approvals is for the disposal of commercial and non-hazardous industrial wastes in addition to domestic wastes.

Since the Board's January, 1989 decision there have been a number of changes in the facilities and use of the Landfill Site. A transfer station and recycling facility for white goods, construction debris, etc. has been introduced, and the former sludge lagoons have been closed and the site rehabilitated.

2. Preliminary Hearing and Preparatory Processes

A preliminary hearing on the Town's application was held in Fort Erie on June 18, 1992. The hearing had before it the Board's draft Procedural Directions as a guide to the conduct of the hearing process and its requirements. Accordingly, parties were identified and confirmed, preliminary issues were defined, and a cooperative process for the exchange of information and for addressing the issues was initiated. The parties confirmed were: Town of Fort Erie,

represented by their counsel, Stuart Ellis; the Ministry of the Environment, represented by counsel, Frank Mencarelli; and the Bridge Street Landfill Public Liaison Committee and the Pettit Road Residents Committee, represented by a local resident, Dianne Giliforte.

The preliminary issues defined were related to three basic concerns: (i) the environmental viability of the site; (ii) the need to ensure that the fill does not exceed the capacity and height approved for the site; and (iii) the status of the Waste Management Master Plan for Fort Erie and neighbouring communities. In addition, as an aspect of (i) above, a specific question was raised concerning pollution hazards in the waterway at Thompson Road and Bridge Street.

Following up on the final Procedural Directions issued by the Board on June 24, 1992, witness statements were exchanged, and a meeting of expert witnesses was held on August 25, 1992. All of the nine expert witnesses identified above on the first page of this decision participated in the meeting. The result of the meeting was:

- (a) a consensus of all expert witnesses on proposed Conditions of Approval dated July 15, 1992, prepared by the Town of Fort Erie;
- (b) a statement of agreed facts and opinions;
- (c) a list of resolved issues; and
- (d) confirmation that there were no unresolved issues arising from the meeting of expert witnesses.

On this basis, the main hearing was able to proceed effectively with an agreed attention to a limited set of issues which were highly critical from the perspective of environmental impact.

The minutes of the above meeting were submitted, in a letter dated September 10, 1992, to the Board and to all parties as the joint submission of the expert witnesses.

II. ADDRESSING THE ISSUES

Evidence presented at the hearing addressed each of the issues. Witnesses for the proponent, the Town of Fort Erie, covered the disciplines of waste management planning, hydrogeology, waste management engineering, water resources engineering, geomorphology, and regional planning.

The expertise participating on behalf of the Ministry of the Environment included environmental planning, hydrogeology, and waste management hydrogeology. The Liaison Committee/Pettit Road Residents Committee did not present expert witnesses. Ms. Dianne Giliforte, on behalf of these parties, participated in cross-examination and presented final argument. Definitions and pertinent information for each of the issues follows.

1. Environmental Suitability - the suitability of the site with respect to "the protection and conservation of the natural environment" in question

(i) Physiography of the Site

The evidence that is related to this issue includes information on the innate characteristics of the site, as well as on the management practices - monitoring and control - designed to sustain the environmental viability of the site.

Ms. N.J. Rennie, geomorphologist, submitted evidence (Exhibit 21, included here) showing that the site was generally covered by a deep overburden above bedrock, containing silty clay materials to a depth of eight to eleven metres. This was judged by W.R. Blackport, Senior Hydrogeologist/MOE to be "a natural attenuation site" that "doesn't have to be engineered in order to contain the leachate that is produced". It is "not similar to a site that sits right on the sand and gravel" or "on ash or bedrock" (W.R. Blackport, Transcript, Volume 4, pp. 12, 13).

(ii) Monitoring of Impacts: Ground and Surface Water

The two basic concerns are the impact of the landfill on the quality of ground water, and on the quality of surface water. In accordance with the operative Certificate of Approval (May 26, 1989, confirming and extending a monitoring program commenced in 1981) there are three main monitoring activities: (a) the monitoring of ground water is conducted semi-annually at 40 observation bedrock wells (Exhibit 20, Site Instrumentation); (b) the monitoring of surface water is conducted monthly at seven stations (Exhibit 25, Surface Water Monitoring); and (c) private wells have been sampled intermittently since 1986, and regularly on a semi-annual basis since 1991 (Exhibit 26, Water Well Survey; for an outline of the scope of these three monitoring programs, N.J. Rennie, Transcript Volume 2, pp. 89-94).

Evidence on these impacts was provided by Rennie and Beatty, respectively geomorphologist and water resources engineer. In the case of ground water, it was concluded that:

- (a) there is "evidence of low levels of leachate reaching the bedrock", and
- (b) such levels are "well below the MOE criteria in the case of chloride and all of the other parameters" (B.W. Beatty, Transcript, Volume 2, p. 148).

With regard to surface water impacts, Mr. Beatty concluded, on the basis of a 10-year monitoring program, that the results for the three most sensitive parameters: ammonia, iron, and phenol indicate that there were no detrimental impacts on the environment. He stated that there is "no evidence of any sustained or in fact no evidence at all of any impact on this creek [Miller Creek, the main water course flowing through the site] from the landfill" (B.W. Beatty, Transcript, pp. 113-116, 117).

The impact on the deep private, mainly bedrock wells on Pettit Road, although of concern to the residents, is not considered an issue because they are upgradient of the direction of ground water flow from the site. This is illustrated in Exhibits 23, 24, and 24a (included here) showing ground water flows through the site, mainly to the north and north-east. B.W. Beatty concludes that the sampling shows no cause for concern, and that "there is no possible way that ground water can move from the landfill to the wells" (B.W. Beatty, Transcript, Volume 2, p. 110).

One of the residents whose well is regularly sampled, a Mr. Fletcher from Pettit Road, appeared at the evening session on October 14, 1992, and complained about the smell - "like a sewer after a major rainstorm". B.W. Beatty, in response, acknowledged that the sampling results confirm that the water quality in the Fletcher well "is not that great". In particular he cited a level for sulphate of 1440 mg/L compared to the MOE objective of 500 mg/L; which is a level that can have "laxative effects" on the uninitiated. Mr. Beatty attributed this feature to the fact that "the well happens to be drilled right through some strata of gypsum [bedrock] that gives higher sulphate level to the water". It should also be noted, with respect to surface water effects, that the Fletcher property and well on the north edge of Miller Creek at Pettit Road is upstream from the landfill site in which the Creek flows north-northeast to the Niagara River (Mr. Fletcher, Transcript, Volume 3, p. 134; B.W. Beatty, Transcript, Volume 3, pp. 138, 139; and Exhibit 29, Summary of Private Well Water Quality - note PW-f, Mr. Fletcher's well; Exhibit 19, Watershed Map).

The conclusions of the expert witnesses appearing for the Town were confirmed and supported by the evidence of the experts from the Ministry of the Environment, namely William Blackport, senior hydrogeologist; and Paul Nieweglowski, waste management hydrogeologist, Approvals Branch.

On ground water, Mr. Blackport cited criteria based on the Reasonable Use Policy of the MOE "set up to determine what is an acceptable level of contaminant impact within the aquifer in Fort Erie", and stated that there "have been no indications that any unacceptable levels of contaminants have been found in the wells ... the downgradient wells that we specified in 1989 Certificate of Approval. Reviewing all the data, there have not been any unacceptable impacts in the downgradient wells ... that are on the site ... that's in both the overburden and bedrock monitoring wells". And on surface water he reported that "a review indicates that although there are some elevated levels of phenols and ammonia immediately adjacent to the site ... downstream in Miller Creek there are no impacts from it [i.e. the landfill] (W. Blackport, Transcript, Volume 4, pp.8, 9).

Mr. Nieweglowski made a synoptic statement on the overall performance of the landfill. He said:

The Ministry is of the opinion that the existing landfill site is operating in full accordance with the certificate of approval, and is functioning as per the original design with the exception that the site hasn't filled up as quickly as originally anticipated. The Ministry supports the continued disposal of waste at the Bridge Street Landfill site to the final contours that we will have identified in revised condition 3 ..., and/or five years, whichever may come first. (P. Nieweglowski, Transcript Volume 4, p.7 1).

Generally, the evidence re-confirms the suitability of the site for its interim use as a landfill site, as well as the appropriateness of the general conditions (a) setting limits to the type, quantity and physical disposition of wastes; and (b) providing for the systematic monitoring and reporting of impacts on ground and surface waters. Both of these conditions are confirmed and refined in Appendix A of this decision report - the first in condition 3; and the second in conditions 4 and 5.

There remains one specific issue related to impacts on the aquatic environment, on surface water, that must be addressed. This was identified as part (a) of the first issue on environmental suitability in the Procedural Directions. It will be considered at the end of this section.

(iii) Control and Contingency Plans

The environmental suitability of a landfill depends on a combination of factors which together constitute a control system. These are the innate physiography of the site - the degree to which it has attenuation characteristics; the regular, periodic monitoring of ground and surface water; and contingency plans for detecting, disposing and safe treatment of contaminants that may occur in either the ground or surface water.

The contingency plan for the Bridge Street Landfill consists of two main features: (a) for impacts on the bedrock aquifer, a deep, drawdown, pumping purge well to be located in the northeastern corner of the site in the groundwater exit path; and (b) for surface water or overburden contamination, a leachate collection system constructed around the perimeter of the landfill area.

Evidence was presented by B.W. Beatty and C. Caers on behalf of the Town, and confirmed by W. Blackport, M.O.E., showing that a detailed plan was in place to bring both of these parts of the system into effect, as necessary (Transcript, Volume 2, B.W. Beatty, pp. 123-142; C. Caers, Volume 3, pp. 29-36; W. Blackport, Volume 4, pp. 10-12).

The trigger mechanism for the first would be the consistent "exceedance" of M.O.E. objectives for a set of eight sensitive parameters (identified here in Appendix A, Schedule "B"), occurring in the specified observation wells along ground water flow paths (e.g. PW 2 in Exhibit 24a). The trigger mechanism for the second, surface and overburden, would be the consistent occurrence in the storm water retention pond, immediately to the northeast of the landfill area, of leachate discharges. The retention pond, which is a feature of the arrangements for storm water management, is scheduled for construction by late July, mid-August, 1993. In each case, the plan would be implemented "upon written instructions" of the Director, the M.O.E. official designated to administer Section 30 of the *Environmental Protection Act*.

For each contingency, the contaminated water would require collection, and then treatment at the Town's Anger Road Water Pollution Control Plant. Depending on quantities, collection would be either (a) by truck and discharge into an existing sanitary sewer at Pettit Road, approximately 200 metres south of the existing landfill site; or at the sewer on Gilmore Road, approximately 1.7 km south of the site; or (b) by direct connection to the closest sanitary sewer line (see Map 2). The latter would involve the construction of a sewer connection.

Provision for the contingency plan is included in Appendix A - for the purge well, in condition 6; and for the perimeter leachate collection system, in conditions 11 and 12.

1(a) Environmental Suitability, a Specific Case on Thompson Road - the impacts on the quality of water in surrounding waterways, such as those under Thompson Road, which should not be subject to any pollution hazards arising from the Bridge Street Landfill

The issue was raised in a letter to the Board at the preliminary hearing (June 18, 1992) by Ms. J. Christensen, concerning her property on Thompson Road near Bridge Street (see location on accompanying map from Exhibit 35). Two concerns were expressed in the letter:

- (i) about the degree of pollution present, if any, at the natural waterway where it drains under Thompson Road near the Bridge Street sign; and
- (ii) about the possible presence of methane on the property.

On the basis of a site visit (August 18, 1992) and investigations at the Christensen site, Ms. N.J. Rennie, Dames and Moore Canada, environmental consultants for the Town concluded with respect to the above, as follows:

- (i) "We mapped surface drainage in the area and in fact the property is within the Frenchman Creek drainage area, ... as opposed to Miller Creek, so that there is an actual surface divide between the landfill site and the property of concern. Therefore, we advised the Town that the area of concern would not have any surface drainage from the site entering near the property" (N.J. Rennie, Transcript Volume 2, p. 149); and
- (ii) "In response ... we installed two gas probes on the property ... one on the east side and one on the west side of the site. Those gas probes have been monitored for the presence of landfill gas and we have found none, so our conclusion is that both of the issues raised by Ms. Christensen have been properly addressed and there are no impacts on that property" (N.J. Rennie, Transcript, Volume 2, pp. 150, 151).

The Board has no reason to challenge this conclusion.

2. The Site Capacity Issue and Waste Management

- (i) Site Limits, Site Life, and *Environmental Assessment Act*, Exemption Order, November 20, 1991.

This issue was the subject of some substantial and at times contradictory evidence. Mr. Schram and Mr. Caers, Proctor & Redfern Limited, after examination of their evidence on the first day of the hearing, October 13, 1992 decided to go back, so to speak, to the drawing board, and returned on the third day with revised information. This was filed as Exhibit 46, and further interpretive testimony was obtained.

The fundamental point of departure was the limit set by the above-mentioned Exemption Order, namely "the interim contour limits as approved under existing certificate of approval No. A120501, May 26, 1989". That limit represents a capacity of 178,000 cubic metres, which is what remains in the western half of the four hectare expansion area approved by this Board's decision of January 16, 1989. The elevations of the contours establish the height limits.

Accepting this limit, estimates of site life were made based on the prevailing design assumptions in the Town's 1992 application:

Annual waste disposal:	Residential - 7,500 tonnes
	Total - 24,100 tonnes
Waste density	- 600 kg/cubic metres
Waste to daily cover ratio	- 5:1

Accordingly, the site life for residential wastes from 1992, was estimated at approximately 9 years; and for total wastes (including industrial and commercial) at approximately 4 to 6.5 years. Witnesses for the Town stated that the Town by-law prohibiting the disposal of commercial and non-hazardous industrial wastes at the Bridge Street Landfill Site would continue in effect, notwithstanding the Town's application which includes the three types of wastes. The Board must infer, however, that the Town wishes to maintain the option to dispose of commercial and industrial wastes at the site. (D. Schram and C. Caers, Transcript, Volume 4, pp. 40, 41 and 44-48; D. Schram, Transcript, Volume 2, p. 76).

The operational basis for implementing the required site limits, both height and capacity, is provided in Appendix A, Schedule "A", Items 15 and 16 on (a) the general layout for proposed storm water management and leachate collection system; and (b) the Final Contour Plan.

(ii) The Waste Management Context: Diversion and the 3 Rs

The estimates above appear to provide a comfortable margin for residential wastes. If the town, however, for whatever reason (because of the costs of private disposal at Niagara Waste Systems, or because of an unexpected closing of that business/facility) was obliged to accommodate all the wastes specified in their application, then the volume of wastes within the five-year term would be pressing on the certified disposal limits. For this reason, and for the intrinsic and long-term merits of practising sound waste (some would prefer "resource") management, the ultimate security of the Town's wastes position will depend on attaining a comprehensive plan that prominently features a strategy for waste diversion.

The Board was given assurances that "the Town intends to meet or exceed the province's goals of diversion of landfill waste of 25% by 1992 and 50% by 2000". And data was given indicating that compared to 1987, total wastes disposed have dropped by 38%, from 22,000 tonnes to 16,500 tonnes per annum. The difference, 5,500 tonnes, has been diverted by a variety of initiatives. Information on these were filed under the title of "Waste Diversion Initiatives, October 6, 1992" as Exhibit 15. Due to the importance of these efforts, the five-page document is attached as Appendix B. The Board concluded that this program was diverting substantial amounts of wastes from the site.

It is a comprehensive program, featuring a schedule of eight decision points, extending from October, 1992 to March, 1993. It provides an overview of the present situation, and an outline of plans and initiatives in Public Education, Household Hazardous Waste, Reduction, Reuse, Recycling, and Long Term Planning. While fulfilment of this program would go far to establish a sound and sustainable relationship of the Fort Erie community to its environment, a number of weak links need to be noted and given priority. These include, for example: the disposal and treatment of household hazardous wastes - an annual day for this purpose cannot be much better than a token gesture; the absence of recycling (i.e. blue box) for apartments and other forms of multi-unit residential buildings; and the lack of "common recycling programs" for the industrial, commercial and institutional (I.C.I.) sector. It is reassuring that these gaps are acknowledged, and that long term plans include continuing "work with the City of Port Colborne on our Waste

Management Master Plan". The latter is item #10 in a list of 14 initiatives, and as such does not yet appear to have been given the essential prominence of an initiative that sets an inclusive framework for all the others.

(iii) Public Liaison and Involvement in Waste Management

Evidence submitted by the Town of Fort Erie refers to several ways in which members of the community are directly involved in the waste management process. Mr. William Slack, Manager of the Environmental Division of the Town's Public Works Department explained the function of the Bridge Street Landfill Site Liaison Committee, established by the Council in December, 1991; and the terms of reference of the Committee were filed as Exhibit 41. In the Town's program on Waste Diversion Initiatives, two other committees are referred to: the Recycling Ad-Hoc Committee, and the I.C.I. Waste Reduction Committee.

Three features of the Liaison Committee terms of reference, dated April 23, 1992, are particularly important:

- a) its composition, providing for a majority of "members of the public" - a minimum of five, of which at least three "should live in close proximity to the site". The others are the Town's Environmental Division Manager, and Waste Management Coordinator;
- b) its purpose: "to review and comment on the Town's operational, maintenance and closure activities at the Bridge Street Landfill Site";
- c) reporting - the requirement of an Annual Report on its activities, which is to be submitted to the Ministry of the Environment.

With regard to the involvement of the public in the next phase of the Town's waste management process, the Board heard an emphatic recommendation from the Town's consultant on waste management planning, David Schram, concerning the role of the Liaison Committee. He stated:

I would hope, and recommend to the town, that when they produce their waste diversion strategy that the Public Liaison Committee is involved in that, as well, because as I say it is an important interest group in that they've taken the time to understand the waste management issues in the Town of Fort Erie and to contribute to this application in their way. (D. Schram, Transcript Volume 2, p. 68).

This somewhat extended role appears to be implied in the Town's document on Waste Diversion Initiatives, October 6, 1992 (Exhibit 15), in which as part of the program on Public Education the Committee's suggested involvement goes beyond the Landfill Site itself to "other waste management matters throughout the Town". This is consistent with the evolution of waste management from concern with a landfill site to management in the broad sense, involving households and firms, and the public generally, in more environmentally sensitive practices that maximize reuse, reduction and recycling, and minimize the need for disposal.

The Board will reflect the foregoing perspective on public involvement in its terms and conditions. Attention will also be given to the need to connect the efforts of the two other committees: on Recycling, and on I.C.I. Waste Reduction, with the Liaison Committee in a single, integrated public consultation/participation process. The Board understands the Committee's terms of reference to include an advisory role on all significant events and decisions made in relation to the operation of the site and the municipal recycling program.

3. Status of the Waste Management Master Plan for Fort Erie and Neighbouring Communities

At the preliminary hearing in June, 1992, Mr. Ellis, lawyer for the Town, was not able to confirm Fort Erie's municipal partners in the waste management master planning process required under the Environmental Assessment Act. That was because inter-municipal discussions, monitored by M.O.E., had not yet resolved whether the participants would be a 4-member (Fort Erie-Colborne-Welland-Wainfleet) or a 2-member club (Fort Erie-Colborne). This Board at the October hearing was told that some preemptive planning on a 2-member basis proceeded throughout the summer of 1992; and that in September, 1992, the 4-member club approach proved not to be feasible, resulting in a re-confirmation of the Fort Erie-Port Colborne planning process.

That process is presided over by a Joint Board of Management of the two municipalities, which had been approved by the OMB in May, 1988, and commenced work in February, 1989. The complex schedule of events extending to the present: studies, Board meetings, reports, newsletters, open houses, and workshops were summarized in Exhibit 42, Chronology of Major Events For Fort Erie/Port Colborne Waste Management Master Plan. This is attached as Appendix C.

The planning process which was initiated by the EA Exemption Order of March, 1986 was re-confirmed as a condition (#3) of the EA Exemption Order of November 20, 1991, which is stated as follows:

The Town of Fort Erie shall proceed expeditiously to complete a long-term waste management program in accordance with the *Environmental Assessment Act* within the interim period of time specified in Condition 6(i) [i.e. within five years after issuance of a Certificate of approval].

Mr. Mark Burgham, senior environmental planner, Waste Unit, Environmental Assessment Branch, M.O.E., testified that the planning process, which is followed closely by the Ministry acting in an advisory capacity, has been unfolding in accordance with the 3-stage program prescribed by the Ministry's Waste Reduction Office. Mr. Stephen Janes, the consultant on regional waste management planning for the Joint Board of Management, reported that the documentation of the Waste Management Master Plan (WMMP) is at Stage 2b.

Evidence was filed (Exhibit 45), and confirmed in examination, that the Stage 2b Report (to be submitted to the Joint Management Board on October 15, one day after Mr. Janes evidence) completes the strategic aspects of the Plan, and that as such it establishes the main sense of direction for waste management in the study region. It will establish the basis for two key decisions: (a) the selection of the preferred waste management system, and (b) the selection of the preferred landfill site. The outline of the report (provided in Exhibit 45) indicates that the essential framework for the evaluation of alternative systems and alternative sites is included and used to support the recommendations (S. Janes, Transcript Volume 3, pp. 93, 95).

While the Board was given no details, Mr. Janes revealed that the preferred system, System 3, places emphasis on a comprehensive 3-R program; and that the preferred site was a site A, located in the northwestern corner of the City of Port Colborne.

The programme appears to be proceeding expeditiously. It is important to note that the strategic aspects, embodied in Stage 2b were, after future needs were estimated in Stage 1 and candidate sites identified in Stage 2a, examined and documented within a period of only two months. On the issue of timeliness, however, one feature of the Report requires some highlighting. There

is not a smooth articulation in time between the termination of a Certificate of Approval that might issue from this Board's decision, that is - 1998, and the projected WMMP schedule for the operation of the Fort Erie-Port Colborne preferred site which is given the following schedule:

1997	site approval
1998	site acquisition
1999/2000	site development
2000	site operation commences

(Exhibit 44A, Port Colborne/Fort Erie WMMP Schedule)

Responsibility for addressing this mismatch lies with the participating municipalities; and they would be well advised to give this matter some priority.

III. EVALUATION AND CONCLUSION

At the preliminary hearing on June 18, 1992 three main issues were identified, which were later confirmed by the expert witnesses of the Town of Fort Erie and the M.O.E., accepted by the other parties, and subsequently served as a framework for the presentation of evidence at the October, 1992 hearing. Those issues were concerned with (i) the suitability of the site with respect to "the protection and conservation of the natural environment" in question; (ii) the establishment and maintenance of height and capacity limits at the site; and (iii) the status of the Waste Management Master Plan, which is a condition of the prevailing EA Exemption Order.

Each of these issues have been addressed and explored in some depth. What emerges is a system of control having the following features:

- (a) a site with a deep silty clay overburden, having natural attenuation characteristics;
- (b) a program for the regular, periodic monitoring of impacts on both ground and surface water, including private wells of adjacent residents;
- (c) contingency plans providing for the detection, collection and treatment of any contaminated discharges in bedrock or surface waters and in the overburden;

- (d) limits to both height and capacity defined by a "final contour plan" that enforces the site limits required by the November 20, 1991 EA Exemption Order;
- (e) a comprehensive program of Waste Diversion Initiatives, providing security against excessive pressure on established limits, and facilitating attainment of the provincial waste diversion objectives;
- (f) a Public Liaison Committee with potential to integrate the public involvement in the Town's waste management program, as well as to monitor the "housekeeping" at the Landfill Site;
- (g) the preparation of a Waste Management Master Plan by a Joint Board of Management that commits both the Town of Fort Erie and the City of Port Colborne to a process that will produce a waste management system and landfill site consistent with the requirements of the M.O.E.

Each of these are essential links in a system. Overall effectiveness depends on the strength of each, and on their inter-connections. Weak links and connections could very well "shake" the entire system, and compromise the effectiveness of waste management in the Town.

With regard to the application before the Board the evidence examined raises no concerns about (a) to (d) above. Item (e) should be fine if scheduled initiatives to March, 1993 are implemented. Item (f) requires an updating of the terms of reference of the Liaison Committee, consistent with a broader role that is already emerging. And (g) is proceeding commendably, but in view of expert evidence from Mr. Janes and Mr. Burgham, it would be advisable if the WMMP was brought in line with the five year term of a Certificate of Approval.

On this matter, Ms. Giliforte, speaking for the residents, was quite explicit. She stated:

Mr. Chairman it's in the best interests of both the groups that I represent to see an expeditious handling of the waste management master plan. In fact it is a rather crucial issue where we are concerned. And, anything that this Board can do to see that the certificate is contingent upon and underscores the fact that the master plan must reach its conclusion would be greatly appreciated by both groups. (Giliforte, Transcripts Volume 4, p. 102).

Ms. Gilforte's point is particularly compelling in view of the Town's commitment more than three years ago (at the October, 1988 hearing) to participate in the preparation of a waste management master plan. The conditions and needs which produced that commitment are no less urgent today.

The foregoing review of (a) to (g) suggests a conditional approval of the Town of Fort Erie's application to continue the use of the Bridge Street Landfill for a further five year interim period.

IV DECISION

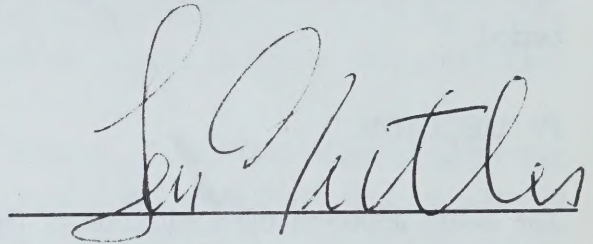
The Board approves the application of the Town of Fort Erie to operate the Bridge Street Landfill Site for a further five years, subject to:

1. the conditions of approval for a Certificate of Approval set out in Appendix A;
2. the inclusion in the conditions of approval, Appendix A, of an item 20 (on p. 5) requiring that the Bridge Street Landfill Site Liaison Committee (known as the Public Liaison Committee) continue to function throughout the five year term of the Certificate of Approval, in accordance with the terms of reference set out in Exhibit 41; and that the following be added to the stated "Purpose" in those terms of reference: "public education and advice on the Town's waste diversion strategy, and other aspects of waste management".

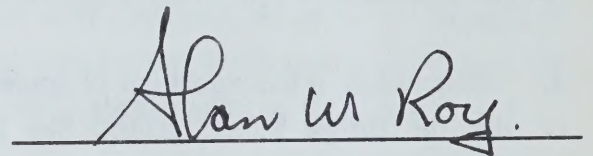
While the Board does not set any conditions related to the master planning process, it should be noted that, consistent with the EA Exemption Order of November 20, 1992 this approval is based on the assumption that the "long term waste management programme" is proceeding expeditiously. "Expeditious" is defined by the Board to mean completed within the five year term of a new Certificate of Approval. The Town can have no assurance that another approval and certificate would be forthcoming after an interval of five years, which has been expertly judged to be sufficient time to complete and implement the master planning process.

The Board directs that Appendix A (condition 1 above, together with condition 2 above), should be the basis of the Certificate of Approval issued by the Director of Environmental Approvals of the Ministry of the Environment.

DATED at TORONTO this 14TH day of JANUARY, 1993.

A handwritten signature in dark ink, appearing to read "Len Gertler", written over a horizontal line.

Len Gertler
Chair

A handwritten signature in dark ink, appearing to read "Alan W Roy", written over a horizontal line.

Alan Roy
Member

APPENDIX A

CONDITIONS OF APPROVAL FOR PROVISIONAL CERTIFICATE OF APPROVAL FOR A WASTE DISPOSAL SITE, NO. A 120501

CONDITIONS OF APPROVAL FOR PROVISIONAL CERTIFICATE
OF APPROVAL FOR A WASTE DISPOSAL SITE, NO. A 120501

Under the Environmental Protection Act and the regulations and subject to the limitations thereof, this Provisional Certificate of Approval is issued to:

The Corporation of the
Town of Fort Erie
200 Jarvis Street
Fort Erie, Ontario
L2A 2S6

for the use and operation of an 18 hectare landfilling site within a total site area of 65 hectares:

all in accordance with the following plans and specifications:

Located: Part of Lots 7 and 8, Concession 4, Niagara River
Bridge Street, Town of Fort Erie
Regional Municipality of Niagara

which includes the use of the site only for the disposal of the following categories of waste (Note: Use of the site or additional categories of wastes requires a new application and amendments to the Provisional Certificate of Approval) domestic, commercial, non-hazardous solid industrial waste

and subject to the following conditions:

1. For the purpose of this Certificate of Approval:

- 1.1 "Blue Book" means the publication "Water Management Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment" (May 1984).
- 1.2 "Director" means the one or more persons who from time to time are so designated for the purpose of Section 30 of the Environmental Protection Act.
- 1.3 "Approved Expansion Area" means the lands described in Plan 1 as the Proposed Landfill Area and Plan 6 showing the final contour identified as items 15 and 16 in Schedule A.
- 1.4 "Landfill Site" means the areas described as the "existing landfill area" and "proposed landfill area" as described in Plan 1 listed as item 2 in Schedule "A" to this Certificate of Approval.

- 1.5 "Reasonable Use Policy" means policy No. 15-08 of the Ontario Ministry of the Environment which is entitled "The Incorporation of the Reasonable Use Concept into the Ground Water Management Activities of the Ministry of the Environment".
- 1.6 "Site" means the land described in Schedule "D" to this Certificate of Approval.
- 1.7 "Town" means The Corporation of the Town of Fort Erie.
2. The terms and conditions set out in this Certificate of Approval replace all terms and conditions set out in any Certificate No. A 120501 issued previous to the date of this Certificate of Approval.
3. This Certificate of Approval restricts operations of this landfill site as follows:
 - 3.1 No landfilling may take place beyond the limits or final contours of the Landfill Disposal Area, West Expansion Area, as defined on Items 15 and 16 in Schedule "A" of this Provisional Certificate of Approval.
 - 3.2 No waste may be deposited at the site pursuant to this Provisional Certificate of Approval after the earlier of:
 - 3.2.1 More than 5 years after the date of this Provisional Certificate of Approval, or
 - 3.2.2 After the limits and final contours of the Landfill Disposal Area as defined on Items 15 and 16 in Schedule "A" of this Provisional Certificate of Approval have been attained.
 - 3.2.3 After the commencement of operations of a waste disposal site pursuant to the Port Colborne/Fort Erie Waste Management Master Plan.
 - 3.3 Maximum depth of excavation in the Approved Expansion Area of the Landfill Site is not to exceed 3 metres from original ground surface.
 - 3.4 Only wastes emanating from within the geographical boundaries of the Town may be received for disposal in the Landfill Site.
 - 3.5 The waste types to be received at the Landfill Site for disposal are restricted to domestic, commercial and non-hazardous solid industrial.
 - 3.6 No landfilling may take place after the commencement of operations of a waste disposal site pursuant to the Port Colborne/Fort Erie Waste Management Master Plan.

4. The Town must carry out:
 - (a) the monitoring programs as outlined in the report listed as document No. 3 in Schedule "A" to this Certificate of Approval;
 - (b) the monitoring programs as outlined in Schedule "B" and "C" to this Certificate of Approval; and,
 - (c) such amendments to the above programs as may be made by the Director from time to time.
5. An annual report on the operation and development of the Site, and on the monitoring of the Site shall be submitted by the Town to the Director. Each report shall cover each successive calendar year with the report being submitted no later than April 1 of the year following the year being reported upon. This annual report, based on the previous year's Site operation and monitoring programs, shall collate, interpret and discuss:
 - 5.1 The data collected from the previous year's monitoring programs for the Site including, without limitation:
 - 5.1.1 analysis and interpretation of the results of the surface water and groundwater monitoring program;
 - 5.1.2 review of the monitoring results and a recommendation of the need for commencement and/or continuance of the installation and pumping of the leachate collection system and/or pumping of the purge wells;
 - 5.1.3 review of the adequacy of the monitoring program and a recommendation for any changes that may be necessary;
 - 5.1.4 review of the monitoring results and a recommendation on the need for, and design of, abatement measures of the Site.
 - 5.2 The previous year's operation and development, including:
 - 5.2.1 a monthly summary of the quantity, source and types of waste deposited at the Site;
 - 5.2.2 any changes to the operation, equipment or procedures at the Site;
 - 5.2.3 any operational problems encountered and the remedial measures taken;

PROVISIONAL CERTIFICATE OF APPROVAL
FOR A WASTE DISPOSAL SITE

NO. A 120501

Page 4 of 13

- 5.2.4 an estimate of the remaining cover material, landfill site capacity and landfill site life;
- 5.2.5 an updated Site plan showing the areas of fill, buffer zones, contours, monitoring locations and surface water control facilities; and,
- 5.2.6 recommendation respecting any proposed changes in the operation of the landfill.

- 6. (1) The Town must commence operating the purge well at the Site upon written instructions from the Regional Director provided that such instructions based upon exceedance of the predicted concentrations of any critical contaminants specified and outlined in Schedule "B" of this Certificate of Approval.
- (2) Upon implementation of the purge well contingency system, a review of the performance monitoring as listed on page 31 of the report listed as document No. 4 listed in Schedule "A" to this Certificate of Approval shall be carried out by the Town and a report submitted to the Director.
- 7. The operating hours for the site shall be from 7:00 a.m. to 6:00 p.m. daily. The operator shall be permitted to operate equipment on the Site for up to 1 hour immediately after the Site is closed each working day.
- 8. The only access to the Site shall be the existing entrance located on Bridge Street, unless otherwise approved by the Director.
- 9. A written record of the quantity, source and type of waste entering Site shall be maintained at the Site and included in the annual operating and development report for the Site referred to in condition 5.
- 10. Exposed waste shall be covered by at least 15 centimeters of cover material on a daily basis.
- 11. The Town must construct and commence operating the leachate collection system approved by the Director, upon written instruction from the Director, provided that such instruction is based on the implementation criteria specified and outlined in condition 12.2.
- 12. No landfill leachate contaminated water shall be allowed to flow in the perimeter ditch and to gain access to the retention pond which forms part of the surface water drainage works as outlined in document No. 2 listed in Schedule "A" to this Certificate of Approval.

PROVISIONAL CERTIFICATE OF APPROVAL
FOR A WASTE DISPOSAL SITE

NO. A 120501

Page 5 of 13

12.1 All seeps of leachate contaminated water shall be contained immediately and shall be prevented from entering the surface water drainage works.

12.2 If, in the opinion of the Director, a trend analysis of the data and/or field observations indicates that leachate has entered the retention pond, then the Director may require:

12.2.1 that additional water chemistry be done and reviewed; or

12.2.2 that the retention pond water be taken to a sewage treatment plant; or

12.2.3 that the leachate collection system be constructed; or

12.2.4 any combination of the above.

13. Three (3) piezometer nests shall be constructed east, west and north of the landfill site to replace piezometers as they are taken out of service as stated in Section 9.3.4 of the report identified as document No. 3 in Schedule "A" to this Certificate of Approval.
14. Within 1 year of the approval by the Director and the issuance of an approval pursuant to the "Ontario Water Resources Act S.53, R.S.O. 1990", the Town must construct the surface water drainage works identified in Section 12.0 of the report identified as document No. 2 in Schedule "A" to this Certificate of Approval.
15. Commencing immediately after the issuance of this Certificate of Approval, the Town shall, once per month, clean up litter along Bowen Road between Thompson Road and Sunset Drive and along Pettit Road between Arcadia Street and Gilmore Road.
16. The Transfer Station will be operated and monitored in accordance with the documentation outlined in items 9 through 15 in Schedule "A" to this Certificate of Approval.
17. The Transfer Station will receive only domestic and commercial solid non-hazardous wastes at a rate which will not exceed 180 cubic yards/day and 64,000 cubic yards/year.
18. An annual report will be submitted to the District Officer, Welland Office, Ministry of the Environment, by February 1 of each year. This report shall include a summary by month and monthly and annual total tonnages of waste received at the Transfer Station.
19. The Transfer Station will accept waste approved in Condition 17 generated within the Town of Fort Erie only.

SCHEDULE "A"

This Schedule "A" forms part of Provisional Certificate of Approval:

1. Application for a Certificate of Approval for Waste Disposal Site (Landfill) dated February 10, 1992.
2. A report entitled "Supporting Documentation to an Application for a Certificate of Approval for a Waste Disposal Site (Landfill), Bridge Street Landfill Site, Application for Continued Use for an Interim Period" dated January 1992 by Proctor & Redfern Limited.
3. A report entitled "Hydrogeological Impact Studies for the Bridge Street Landfill Site, Town of Fort Erie" dated January 1988 by Morrison Beatty Limited.
4. A report entitled "Addendum Report, Hydrogeological Impact Studies, Bridge Street Landfill Site, Town of Fort Erie" dated August 1988 by Morrison Beatty Limited.
5. A report entitled "Town of Fort Erie Bridge Street Landfill - Annual Report 1989" dated April 1, 1990 by Proctor & Redfern Ltd.
6. A report entitled "1989 Annual Monitoring Report for the Bridge Street Landfill Site - Town of Fort Erie" by Morrison Beatty Ltd., dated March 1990.
7. A report entitled "The Town of Fort Erie Bridge Street Landfill Site Annual Report 1990" by Proctor & Redfern Limited, dated March 28, 1990.
8. A report entitled "1990 Annual Monitoring Report for the Bridge Street Landfill Site - Town of Fort Erie" by Morrison Beatty Ltd., dated March, 1991.
9. Revised application for Certificate of Approval for a Waste Disposal Site (Transfer) dated January 22, 1991.
10. Recommendation from J. Mayes, Welland District Officer, dated January 3, 1992, supporting the application.
11. Report entitled "Operation and Maintenance Plan for Proposed Transfer Station", by the Town of Fort Erie dated January, 1991.

12. Site plan prepared by Proctor & Redfern Limited dated September, 1990.
13. Drawing number A1-90984-1 by Proctor & Redfern Limited dated August, 1990.
14. Plan survey by J.E. Lanthier, Niagara Ltd., dated November, 1990.
15. Site Plan 1 - General layout for proposed stormwater management and leachate collection system prepared by Proctor & Redfern dated July, 1989 updated October, 1992.
16. Site Plan 2 - Final Contour Plan prepared by Proctor & Redfern dated August, 1989 updated October, 1992.

**PROVISIONAL CERTIFICATE OF APPROVAL
FOR A WASTE DISPOSAL SITE**

NO. A 120501

Page 8 of 13

SCHEDULE "B"

This Schedule "B" forms part of Provisional Certificate of Approval:

The implementation of the contingency purge well system will be based on the criteria set out in Ministry of the Environment Policy 15-08 (Reasonable Use Policy) applied to the following wells:

OW 25-12	OW 29-10
OW 25-16	OW 29-14
OW 28-14	OW 31-17
OW 28-19	OW 31-22

The following parameters shall be used in applying the criteria set out in Ministry of the Environment Policy 15-08:

- chloride
- ammonium
- nitrate
- benzene
- toluene
- xylene
- 1, 2 - dichloroethane
- 1,1,2,2 - tetrachloroethane

SCHEDULE "C"

This Schedule "C" forms part of Provisional Certificate of Approval:

The perimeter surface water drainage system must be inspected once per week for evidence of leachate contaminated water.

Water samples shall be collected from the retention pond on a monthly basis if there is continuous discharge from the system, or per batch of water released from the surface water retention pond, to be analyzed for the following parameters: BOD, Total Ammonium Nitrogen, Total Kjeldahl Nitrogen, Nitrite Nitrogen, Conductivity, Chlorides, pH, Total Dissolved Solids and in-situ water temperature.

SCHEDULE "D"

This Schedule "D" forms part of Provisional Certificate of Approval:

FIRSTLY:

Town of Fort Erie, Regional Municipality of Niagara, being parts of Lot 8, Concession 4, Niagara River, formerly Township of Bertie, designated as Parts 1, 2, 4 and 5 on Reference Plan 59R-3891.

SECONDLY:

Town of Fort Erie, Regional Municipality of Niagara, being part of Lot 8, Concession 3, Niagara River, former Township of Bertie, designated as Part 3 on Reference Plan 59R-3891.

THIRDLY:

Town of Fort Erie, Regional Municipality of Niagara, being part of Lot 7, Concession 4, Niagara River, former Township of Berrie, described as follows:

COMMENCING at a point in the westerly limit of said Lot 7, distant 668.27 feet measured northerly from the southwesterly angle of said Lot 7;

THENCE Northerly along the said westerly limit to the northeasterly angle of said Lot 7;

THENCE Easterly along the northerly limit of Lot 7 to the northeasterly angle thereof;

THENCE Southerly along the easterly limit of said Lot 7 to the southeasterly angle thereof;

THENCE Westerly along the southerly limit to a point in the said southerly limit distant 325 feet measured easterly from the southwesterly angle of said Lot 7;

THENCE Northerly and parallel with the westerly limit of said Lot 7, a distance of 668.27 feet to a point;

THENCE Westerly and parallel with the southerly limit of Lot 7, a distance of 325 feet more or less to the place of beginning, and containing 92.584 acres more or less. The above described lands are further shown outlined in red on a Plan of Expropriation dated December 11, 1966, prepared by Clarke and Lane, Ontario Land Surveyors, and registered as Instrument No. 57595B. Lastly described in Instrument No. 66357B.

PROVISIONAL CERTIFICATE OF APPROVAL
FOR A WASTE DISPOSAL SITE

NO. A 120501

Page 11 of 13

The reasons for the imposition of these conditions are as follows:

1. The reason for condition 1 is to simplify the wording of the subsequent conditions and define the specific meaning of terms as used in this certificate.
2. The reason for condition 2 is to clarify that this Certificate sets out all of the requirements imposed with respect to this site other than requirements imposed by legislation and the common law.
3. Condition 3 outlines the restrictions imposed on landfilling activities at the site by this Certificate of Approval.
4. The site monitoring program is required by condition 4 to ensure that the site is operated as designed and that contaminants do not find access to the environment and result in a hazard to the health or safety of any person.

In addition, the annual site monitoring report required by condition 5 will assure this Ministry that the site operator has a good understanding of the impact of on-going operations on the environment and that all necessary mitigating measures are being taken.

Changes to the monitoring program may be necessary but must be approved by the Regional Director to ensure the continued adequacy of the program

5. A site monitoring operations and development report is required, as per condition 5, to ensure that the on-going construction and operation of the landfill and site works is consistent with the plans and specifications approved by this Provisional Certificate of Approval and the basis upon which the decision to issue this Certificate. Site operations and works that are not constructed and developed in accordance with these plans may result in contaminant emissions to the environment and a hazard to the health and safety of any person.
6. Condition 6 is required to ensure that appropriate measures are taken to deal with the movement of contaminants pursuant to criteria set out in Schedule "B" of the Certificate, when needed.
7. Condition 7 is necessary to ensure that the hours and days of operation for the site are indicated on the face of the Certificate and that the hours and days of operation are consistent with those applied for in the application for a Certificate of Approval.
8. Condition 8 is necessary to ensure that additional entrances to the Bridge Street Landfill Site are not constructed without prior approval.

9. Condition 9 is necessary to ensure that records of waste being received at the site are being maintained and reported. This is a part of the monitoring of the operations of the site and it will assist in ensuring that only approved quantities and classes of waste are received for disposal.
10. Condition 10 is necessary to ensure that wastes are covered on a daily basis. This assists in controlling environmental nuisances at the site such as litter, vector, vermin and odours.
11. Condition 11 and 12 are required to ensure that landfill leachate is not permitted to enter and thereby discharge from the site by way of the surface water drainage works and/or the retention pond. Any such discharges would be deleterious to the environment.
12. Condition 13 is required to ensure that piezometers, which can be destroyed due to normal landfilling operations, are replaced by other piezometer nests which are appropriately located.
13. Condition 14 is required to ensure that the surface water drainage works, which have received Ministry of the Environment approval, are constructed within 1 year.
14. Condition 15 is required to ensure that litter does not accumulate along those roads listed as part of the condition.
15. The reason for condition 16 is to ensure that the construction and operation of the Transfer Station is in accordance with the application and supporting documentation submitted to the Ministry of the Environment.
16. The reason for condition 17 is to ensure that only the type of waste applied for is received at the Transfer Station and that daily and annual waste volumes that have been applied for, are not exceeded to also ensure that the Transfer Station, as designed, is capable of handling this volume.
17. The reason for condition 18 is to ensure that the operation of the Transfer Station is consistent with the reports and plans listed as items 9 through 15 in Schedule "A".
18. The reason for condition 19 is to outline the service area for this Transfer Station.

You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 142 of the Environmental Protection Act, R.S.O. 1990 c. E-19, as amended, provides that the Notice requiring the hearing shall state:

- 1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;*
- 2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.*

In addition to these legal requirements, the Notice should also include:

- 3. The name of the appellant;*
- 4. The address of the appellant;*
- 5. The Certificate of Approval number;*
- 6. The date of the Certificate of Approval;*
- 7. The name of the Director;*
- 8. The municipality within which the waste disposal site is located;*

And the Notice should be signed and dated by the appellants.

This Notice must be served upon:

The Secretary,
Environmental Appeal Board,
112 St. Clair Avenue West,
Suite 602,
Toronto, Ontario,
M4V 1N3

AND

The Director,
Section 39, Environmental Protection Act,
Ministry of the Environment,
250 Davisville Avenue, 3rd Floor,
Toronto, Ontario,
M4S 1H2

DATED AT TORONTO this 15th day of December, 1992.

T.D. Armstrong, P. Eng.,
Director,
Section 39,
Environmental Protection Act

WASTE DIVERSION INITIATIVES, OCTOBER 6, 1992 - TOWN OF FORT ERIE

WASTE DIVERSION INITIATIVES, OCTOBER 6, 1992 -
TOWN OF FORT ERIE1. Strategy to Achieve Provincial Waste Diversion Objectives

- a) PHASE I - Assess existing situation
- b) PHASE II - Examine diversion opportunities
- Contact other municipalities, schedule public workshops
- c) PHASE III - Develop recommended diversion strategy
- Assess costs, determine public preference, implementation schedule, determine role of public/private sector

2. Strategy Schedule

<u>Item</u>	<u>Anticipated Completion Date</u>
1. Phase I	October 30, 1992
2. Examine Diversion Opportunities (Phase II)	November 20, 1992
3. Hold Public Workshop	December 10, 1992
4. Prepare Phase II Report	December 31, 1992
5. Review Alternative Diversion Strategy and Estimated Costs	January 31, 1993
6. Draft Waste Diversion Strategy Report	February 15, 1993
7. Hold Second Public Workshop	End of February, 1993
8. Finalize Waste Diversion Strategy	March, 1993

3. Existing Situationa) **General Overview:**

The Corporation created the Environmental Division within the Public Works Department in early 1990. One of the main objectives of the Environmental Division is to oversee the Town's Waste Management System. There are two (2) full time staff members including the Environmental Division Manager (E.D.M.) and the Waste Management Co-Ordinator (W.M.C.) dedicated to achieving the Town's waste management objectives.

The Town's Waste Management System consists of the following items:

- 1. Weekly refuse collection (residential and commercial).
- 2. Weekly Blue Box recycling collection (residential sector).
- 3. Bridge Street Landfill Site
 - Public Liaison Committee established to provide input on the operation of the site.
 - Refuse is compacted and covered daily.
 - Surface and ground water monitoring (annual report is produced).
 - Annual report on site operations.
 - W.M.C. reviews operations three (3) times per week.

4. Waste Diversion Programs
 - Centralized compost site
 - annual leaf curbside collection.
 - annual Christmas tree collection.
 - yard waste bin at Residential Waste Reduction Centre.
 - brush pile at Landfill Site.
 - Home Composting Program
 - Household Hazardous Waste Day, Operations Division recycles motor oil and anti-freeze.
 - Fine paper recycling at Town facilities, depot at the three (3) Town libraries for residents.
 - Reduce residential collection from six (6) receptacles to four (4) receptacles per week.
 - Residential Waste Reduction Centre (formerly the Transfer Station) - accepts white goods, tires, scrap metal, cardboard, drywall, No. 2 high density plastics, yard waste.
5. Additional initiatives:
 - on-going public education programs
 - newspaper ads, newsletters.
 - discussion with schools, churches, seniors, community groups.
 - booths in malls, libraries.
 - liaison with I.C.I. sector to assist with the establishment of common recycling programs (e.g. fine paper, cardboard depots).
 - investigate banning yard waste and recyclables from the Landfill Site and further reduction in the number of allowable receptacles.
 - investigate feasibility of multi-unit recycling, expanding blue box materials, telephone book recycling.
 - construction of a Household Hazardous Depot at the Residential Waste Reduction Centre proposed for 1993 (application will be made in 1992).

b) **Public Education:**

1. Bridge Street Landfill Site Liaison Committee consisting of residents and Public Works staff to provide input on the operation of the Landfill Site and other waste management matters throughout the Town.
2. Recycling Ad-Hoc Committee consisting of residents and Public Works staff to investigate the feasibility of expanding the Town's Recycling Program.
3. The Town's Waste Management Co-Ordinator has on-going contact with students, boy/girl scouts, church groups and is in the process of developing an I.C.I. Waste Reduction Committee. Plenty of activities are planned for Waste Reduction Week (booths, brochures, dance, student seminars and tours of waste management facilities).
4. Home composters come with a free video and written information on composting. A seminar was held in Niagara Falls in May of 1992.
5. Town page in the Fort Erie Times Review - to discuss the Town's Waste Management Programs. Will look into developing brochures for distribution.

c) **Household Hazardous Waste:**

1. Household Hazardous Waste days were held in 1990, 1991 and 1992. The items recycled were inorganic acids, inorganic alkalines, pharmaceuticals, petroleum distillates, thinners, coatings, inorganic oxidizing agents, pesticides, reactive materials, compressed gases, petroleum oil, alkyd paint, latex paint, propane cylinders, automotive batteries, clock and radio batteries.
2. A permanent Household Hazardous Waste depot is proposed for 1993 at the Residential Waste Reduction Centre (application will be made in 1992).

d) **Reduction:**

1. Centralized Composting Program commenced in 1989. The program consists of:
 - collection and debagging of leaves at the curbside.
 - sweeping of leaves on curb and gutter streets.
 - organic waste bin at the Residential Waste Reduction Centre.
 - brush/clean lumber pile at the Landfill Site which is chipped by Town forces on site.
 - Christmas tree collection.
 - leaves from Town parks and cemeteries.

Organic waste from the above areas is delivered to the Winger Road Compost Site.

2. Home Composting Program commenced in 1990. Approximately 2,000 units have been sold to date.
3. On July 1, 1991 the receptacle limit for the residential sector was reduced from six (6) to four (4).
4. In 1991, the annual Clean-up Week was cancelled and the Town constructed the Residential Waste Reduction Centre. Town residents can discard recyclable materials at no charge (drywall, cardboard, scrap metal, tires, white goods, No. 2 plastics and organic waste). There is a user fee based on the size of vehicle for the disposal of refuse material. This initiative will reduce amount of disposal and increase the amount of recyclables.
5. There are Worm Composters on display at three (3) local schools.
6. Town Hall has banned the use of disposable cups/cutlery by Town employees and established a composting program for organic wastes.

e) **Reuse:**

1. Brush chips and compost material are available to the public at the Winger Road Compost Site.
2. Town departments reuse office supplies such as paper binders, file folders, storage boxes, etc.

3. Christmas trees are collected annually. The trees are chipped and used by residents as mulch.
4. Construction materials from Town projects including concrete, asphalt, bricks and clean fill are reused at the Landfill Site.
5. Parks Department reuse brush chips and some compost materials in Town parks.

f) **Recycle:**

1. Residential Waste Reduction Centre - recycle tires, drywall, scrap metal, white goods (including freon), cardboard, No. 2 plastics and organic wastes.
2. Fine Paper recycled at Town Hall, three (3) depots at Town libraries for residents to discard fine paper.
3. Blue Box Program is available to all of the residential sector and part of the commercial/industrial sector.
4. In August, 1992, the Town implemented a pilot multi-unit recycling project. Blue bags have been purchased for the program.
5. In 1992 the Town began discussions with the I.C.I. sector with the intent of developing groups of common waste generators (ie. fine paper, newsprint, cans, glass, etc). These groups would then establish depots for common materials.
6. Town's Operations Division recycle anti-freeze and oil from Town vehicles.
7. Town uses recycled paper products wherever possible (ie. letterhead, photocopies).
8. Damaged Blue Boxes are returned to the manufacturer for recycling.
9. The Town assists the I.C.I. sector in finding markets for their recyclables.
10. The Town encourages the I.C.I. sector to recycle materials such as cardboard, newsprint, cans and glass. Develop an I.C.I. Waste Catalogue.

g) **Compost:**

1. The Town has provided assistance to the I.C.I. sector in regards to composting.

h) **Long Term Planning:**

1. Expand the Winger Road Composting facility to accept additional materials.
2. The Town intends to meet or exceed the provinces goals of diversion of landfill waste of 25% by 1992 and 50% by 2000.
3. To reduce the receptacle limit further to the residential sector and to reduce the receptacle limit to the commercial sector.

4. Enhance the existing Blue Box Program by adding more materials such as cardboard, mixed plastics, boxboard, magazines, telephone books and any other materials that have an viable market. Expand the program to include multi-unit dwellings.
5. Develop a comprehensive public education program for all sectors.
6. Establish an I.C.I. sector committee to identify and develop effective waste reduction programs.
7. Expand the Residential Waste Reduction Centre (Transfer Station) to accept more recyclable materials. A Household Hazardous Waste Depot is proposed for 1993.
8. Investigate the feasibility of can crushers to Blue Box participants in order to reduce the volume of cans generated thereby resulting in space savings on the recycling vehicle.
9. Ban all organic waste and recyclable materials from the Landfill Site.
10. Continue to work with the City of Port Colborne on our Waste Management Master Plan with the objective establishing a Joint Waste Management System.
11. Public Awareness Campaign to reduce roadside dumping (Adopt-A-Street).
12. Undertake a Leachate Treatability Study for the Landfill Site prior to the necessity to implement the contingency leachate collection system.
13. Council at its October 5, 1992 meeting passed a resolution encouraging a Tire Recycling Firm to locate its operations in Fort Erie.
14. Mobile Waste Management Program Information Centre. This centre will travel to malls, schools, etc. to "spread the word".

APPENDIX C

CHRONOLOGY OF MAJOR EVENTS FOR FORT ERIE/PORT COLBORNE WASTE MANAGEMENT MASTER PLAN

CHRONOLOGY OF MAJOR EVENTS FOR FORT ERIE/PORT COLBORNE WASTE MANAGEMENT MASTER PLAN

Page 1 of 2

EP-92-01 -

APPENDIX C - EXHIBIT #42

	1988	1989	1990	1991	1992
January	Port Colborne By-Law No. 2067/13/88 to authorize a joint agreement with the Town of Fort Erie Fort Erie By-Law No. 18-88 to authorize a joint agreement with Port Colborne	MacLaren Engineers selected as the Consultant	Study Co-ordinator selected	Newsletter No. 2 Panel presentation to the public on Waste Management Technologies - System Overview Discussion Papers 1 & 2: Landfill Site Selection/Waste Management System Alternatives Review Agency Meeting held in Toronto. Topic - Stage 2a and Stage 2b	Detailed Financial Analyses of Systems 3 and 4
February	Agreement to establish a Joint Board of Management	Project Initiation Meeting	Newsletter No. 1 Open House (Port Colborne) - Stage 1 Open House (Fort Erie) - Stage 1	Workshops (4) to review waste management technologies and systems	MOE raises 4 member club approach concept Stage 2b delayed as 4 member club approach reviewed
March					
April		Stage 1 begins	Draft Stage 1 Report circulated	Draft Stage 2a Report circulated Report on site drilling presented	Board authorizes completion of Stage 2b Report
May	OMB Approval for Board of Management: Orders in Files E880390 and E88406		Stage 2a begins Workshop No. 1 - Evaluation Criteria Workshop No. 2 - Technologies and System Options	Social impact assessment conducted Preferred systems requiring further evaluation (Systems 3 & 4) and preferred site (Site A) announced	

CHRONOLOGY OF MAJOR EVENTS FOR FORT ERIE/PORT COLBORNE WASTE MANAGEMENT MASTER PLAN

Page 2 of 2

June	1988		1990	1991	1992
July				Systems Workshop/ Discussion Paper on Interim Stage 2b Findings	
August		Agreement with MacLaren signed	Compensation Policy adopted by Board		Zero Garbage joins Steering Committee
September			Property owners on/ adjacent to sites contacted		Board decides to drop 4 member club approach and authorizes completion of Stage 2b
October		Search for study co- ordinator commences	Site locations released publically.	Preliminary results of final system review presented at public meeting	Stage 2b Report & Newsletter No. 3 presented to the Board (15 October)
November			Stage 2b begins	Question of affordability of a new waste system dealt with by the Board	
December			On site drilling of test holes at the 5 sites		

TOWN OF FORT ERIE - BRIDGE STREET LANDFILL

EXHIBIT LIST

1. Order in Council for an exemption Order under the Environmental Assessment Act for the Town of Fort Erie Landfill dated November 21, 1991.
2. Notice of Referral from the Ministry of the Environment dated March 5, 1992
3. Appointment of Panel dated April 28, 1992.
4. Directions for Notice dated May 5, 1992.
5. Draft Procedural Directions dated June 4, 1992.
6. Affidavit of Service of William Slack, dated June 11, 1992.
7. Letter from Jane Christansen to the Environmental Assessment Board dated June 18, 1992.
8. Expert Witnesses List Town of Fort Erie in order of appearance with specific issues.
9. Map of Other Municipal Landfill Sites in Niagara Region.
10. Regional Municipality of Niagara Waste Management Plan - July 1989.
11. Map of Bridge Street Site Location in Map of Region.
12. Map of Bridge Street Site Location in Municipality of Fort Erie (Land Use Map # 3).
13. Bridge Street Landfill Site Fact Sheet dated October 1992.
14. Town of Fort Erie Waste Diversion Performance 1987-1992 .
15. Waste Diversion Initiatives Strategy of Fort Erie October 6, 1992.
16. Town of Fort Erie, Hydrogeologic Impact Studies Regional Geology Map 4-1 dated September 1986.
17. Onondaga Bedrock Escarpment (hand drawn cross-section).
18. Overburden sequence (hand drawn cross-section).

19. Town of Fort Erie, Hydrogeologic Impact Studies Watershed Map 4-2 dated September 1986.
20. 1991 Monitoring Report Bridge Street Landfill Site, Site Instrumentation 1 dated March 1992.
21. Town of Fort Erie, Hydrogeologic Impact, Bore hole log.
22. Site Stratigraphy and conductivity values (below escarpment) (hand drawn).
23. 1991 Monitoring Report, Bridge Street Landfill Site, Groundwater Flow Overburden aquifer 2 dated March 1992.
24. 1991 Monitoring Report, Bridge Street Landfill Site, Groundwater Flow bedrock aquifer 3 dated March 1992.
24. (a) 1991 Monitoring Report, Bridge Street Landfill Site, Groundwater Flow Bedrock Aquifer 3 dated March 1992.
25. Town of Fort Erie, Hydrogeologic Impact Studies, Surface Water Monitoring, 5-2 dated September 1986.
26. Town of Fort Erie, Hydrogeologic Impact Studies, Water Well Survey, 4-4 dated September 1986.
27. Groundwater Chemistry Graphs of Overburden Wells.
28. Groundwater Chemistry Graphs - (a) Bedrock Wells & (b) Background Well.
29. Table Summary of Private Well Water Quality.
30. Table Summary of Streamflow Monitoring.
31. Table Summary of Water Quality (1991).
32. Town of Fort Erie, Continued Interim use of Bridge Street Landfill Site, Proposed Conditions of Approval.

33. Schematic Cross Section of the Purge Well and Landfill.
 - a) Overlay of Water Budget Analysis.
 - b) Overlay of Purge Well Water levels before pumping.
 - c) Overlay of Purge well Water level draw down (Containment Well).
 - d) Perimeter Leachate Collector System.
34. Table of Volatile Organic Analyses for Triggering Observation Wells.
35. Memo dated August 27, 1992 from N. Rennie to W. Slack of Town of Fort Erie re J. Christensen's Concerns regarding the Town of Fort Erie - Bridge Street Landfill application for Five-Year Interim Use i.e. Leachate and methane gas contamination.
36. Affidavit of Service dated October 14, 1992 by Phylliss Passero.
37. Proposed Final Contours Plan (Map 5).
38. General Layout of Storm water Management and Leachate Collection System (Map).
39. Cross Section of Final Contours, (Map 6).
40. Resolution of Council appointing Bridge Street Landfill Site Liaison Ad Hoc Committee dated January 27, 1992.
41. Bridge Street Landfill Site Liaison Committee Terms of Reference dated April 23, 1992.
42. Chronology of Major Events for Fort Erie/Port Colborne Waste Management Master Plan 1988 - 1992.
43. Fort Erie - Port Colborne Board of Management minutes of September 17, 1992 meeting.
44.
 - a) Port Colborne/Fort Erie Waste Management Master Plan/Schedule.
 - b) EA Exemption Schedule for Existing Landfills.
 - c) 1992 Fall - Winter Schedule.
45. Information submitted to Board of Management Fort Erie/Port Colborne dated September 17, 1992.
46. Memo from Chris Caers, Proctor & Redfern Limited of October 15, 1992 on Bridge Street Landfill Site Capacity and Site Life.
47. Revised Schedule "B" (to Exhibit 32) proposed Conditions of Approval.



**Town of Fort Erie
Bridge Street
Waste Disposal Site**

APPLICATION FOR INTERIM USE EXTENSION

Land Use

TOTAL TOWN OF FORT ERIE
LANDHOLDINGS (65 ha)

WASTE DISPOSAL FILL AREA (18 ha)

WOODLOT

BUILDINGS

ACCESS / HAUL ROUTES

LIMITS OF FORT ERIE AVIATION INDUSTRIAL PARK

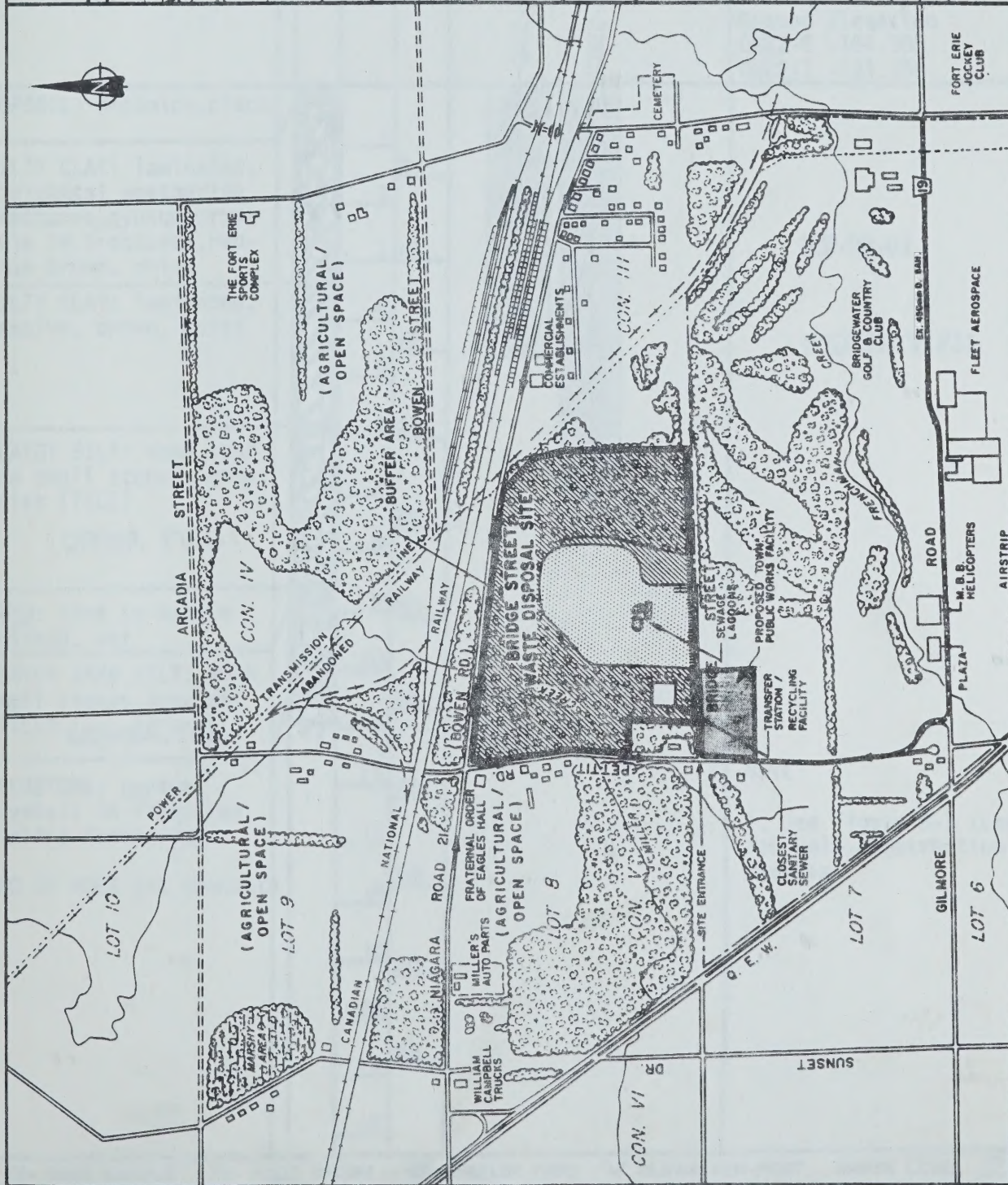
MAP 2

Scale : 1" = 1000'

APRIL 1956
Drawing No. D-82609-G3



Proctor & Redfern Limited
Waste Management Specialists





morrison beatty limited
consulting engineers and hydrogeologists
4800 Dixie Road, 12th, Mississauga, Ontario (416) 624-9700

OW22-5
OW22-7

CLIENT Town of Fort Erie FILE NO. 248-861
PROJECT Hydrogeologic Impact LOCATION Bridge Street Landfill Site
GEOLOGIST/ENGINEER CJH DATE COMPLETED April 8, 1986

DESCRIPTION	DEPTH metres feet	WELL	DETAIL	REMARKS
		OW22-5	OW22-7	Ground Elevation OW22-5 -181.98m OW22-7 -181.98m
TOPSOIL: organics, black	1			EP-92-01 EXHIBIT #21
SILTY CLAY: laminated, horizontal weathering fractures, gypsum crystals in fractures, red-dish brown, moist	5			
	2			
	3 10			
SILTY CLAY: laminated, massive, brown, moist	4			
	15			
	5			
CLAYEY SILT: some sand and small stones, grey, moist (TILL) UPPER TILL	6 20			
	7			
	25			
SAND: fine to medium grained, wet	8			
	9 30			
	10			
CLAYEY SAND SILT: with small stones, grey wet (TILL) LOWER TILL	11 35			
	12			
	40			
DOLOSTONE: gypsum crystals in fractures (Salina Formation)	13			
	45			
	14			
END OF HOLE (at contact)	15 50			
	16			
	55			
	17			
	18			

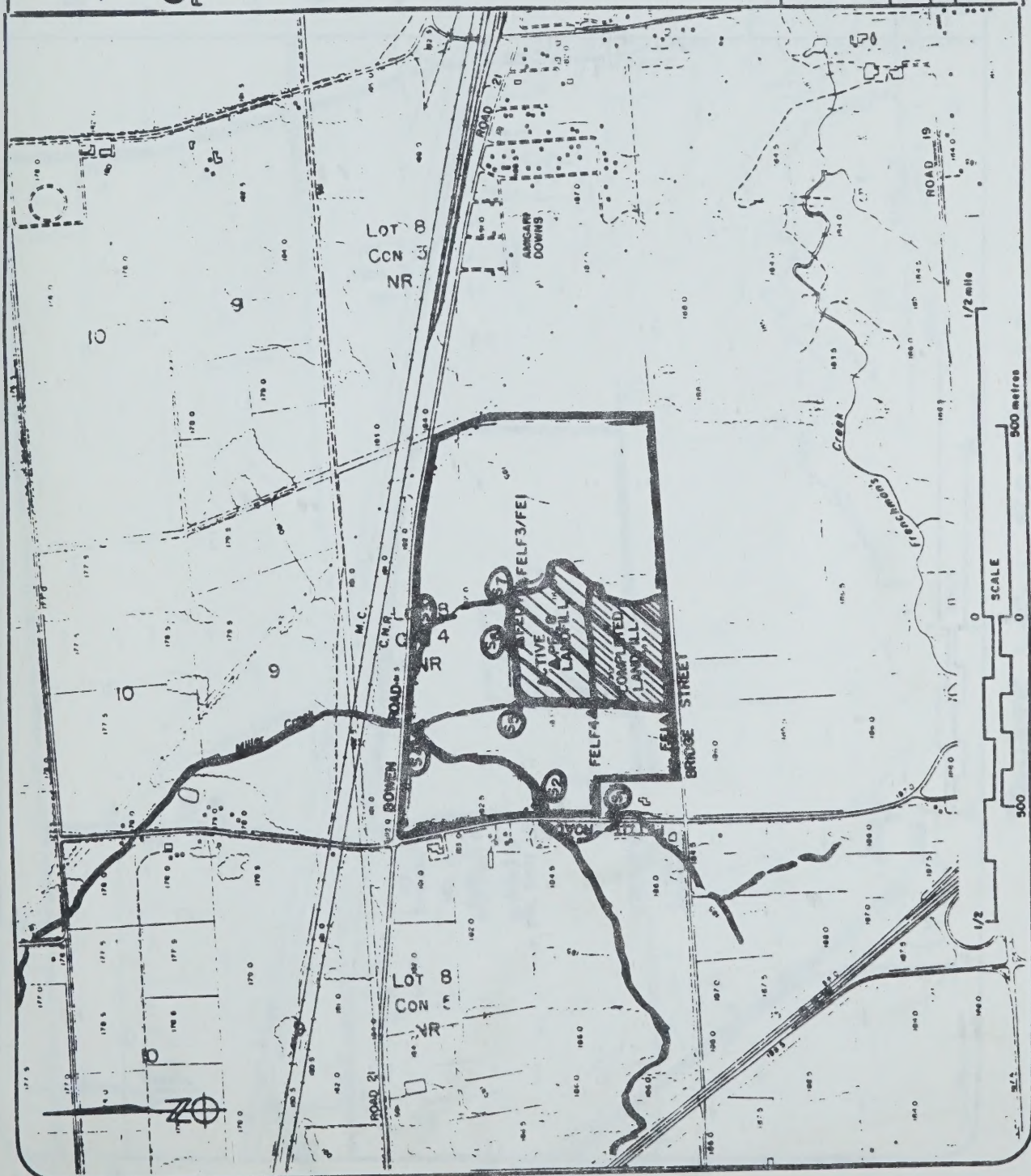
NOTE:

1. See Figure B-1 (Legend) for well construction details



EP-92-01

EXHIBIT #20



LEGEND

DRILLED BEDROCK WELL

- 1986 (MOE)

• 1988

• 1991

EP-92-01

EXHIBIT #26

TOWN OF FORT ERIE
Hydrogeologic Impact Studies
BRIDGE STREET LANDFILL SITE

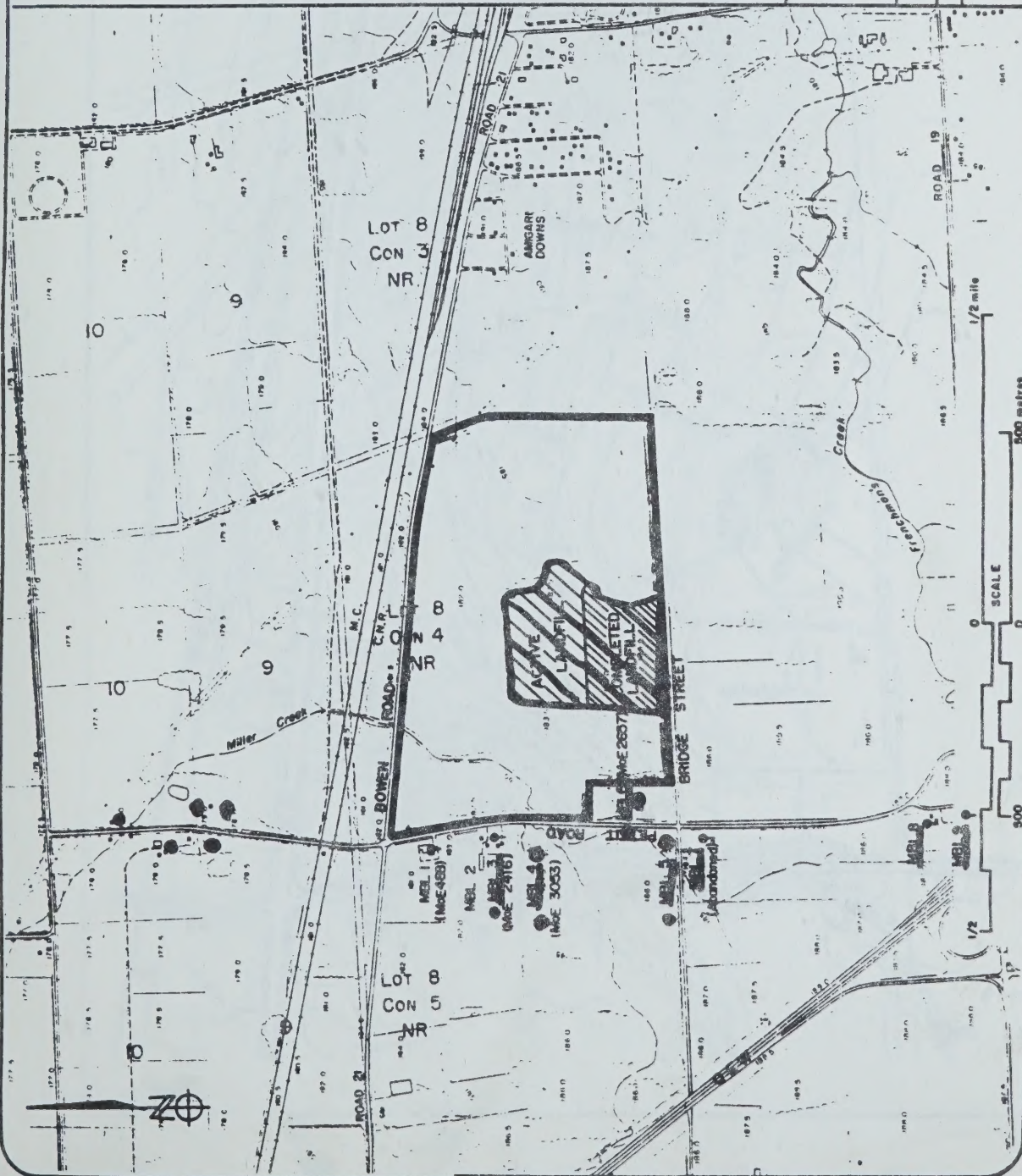
WATER WELL SURVEY

PROJECT No. 248-661

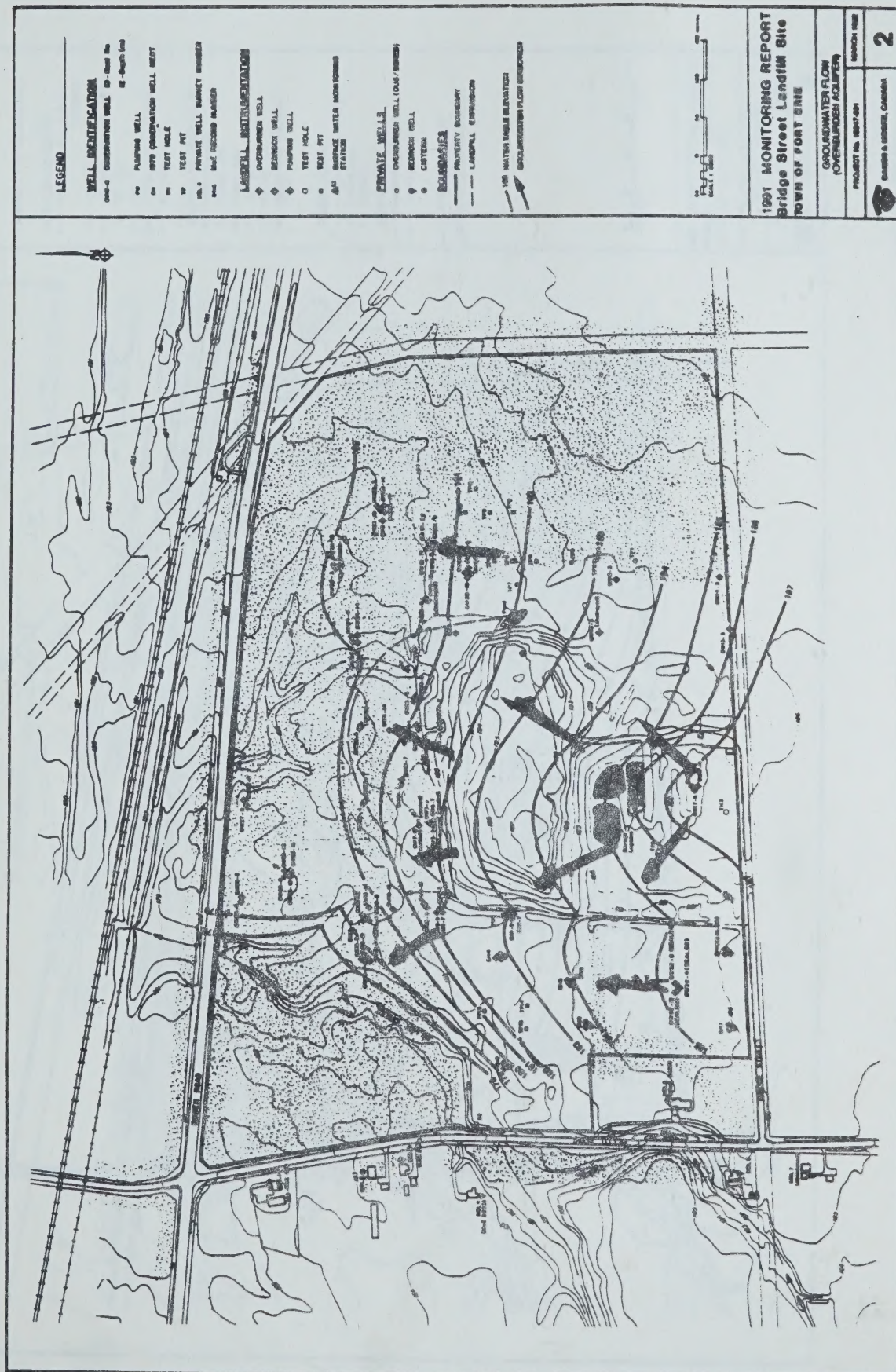
SEPT. 1996

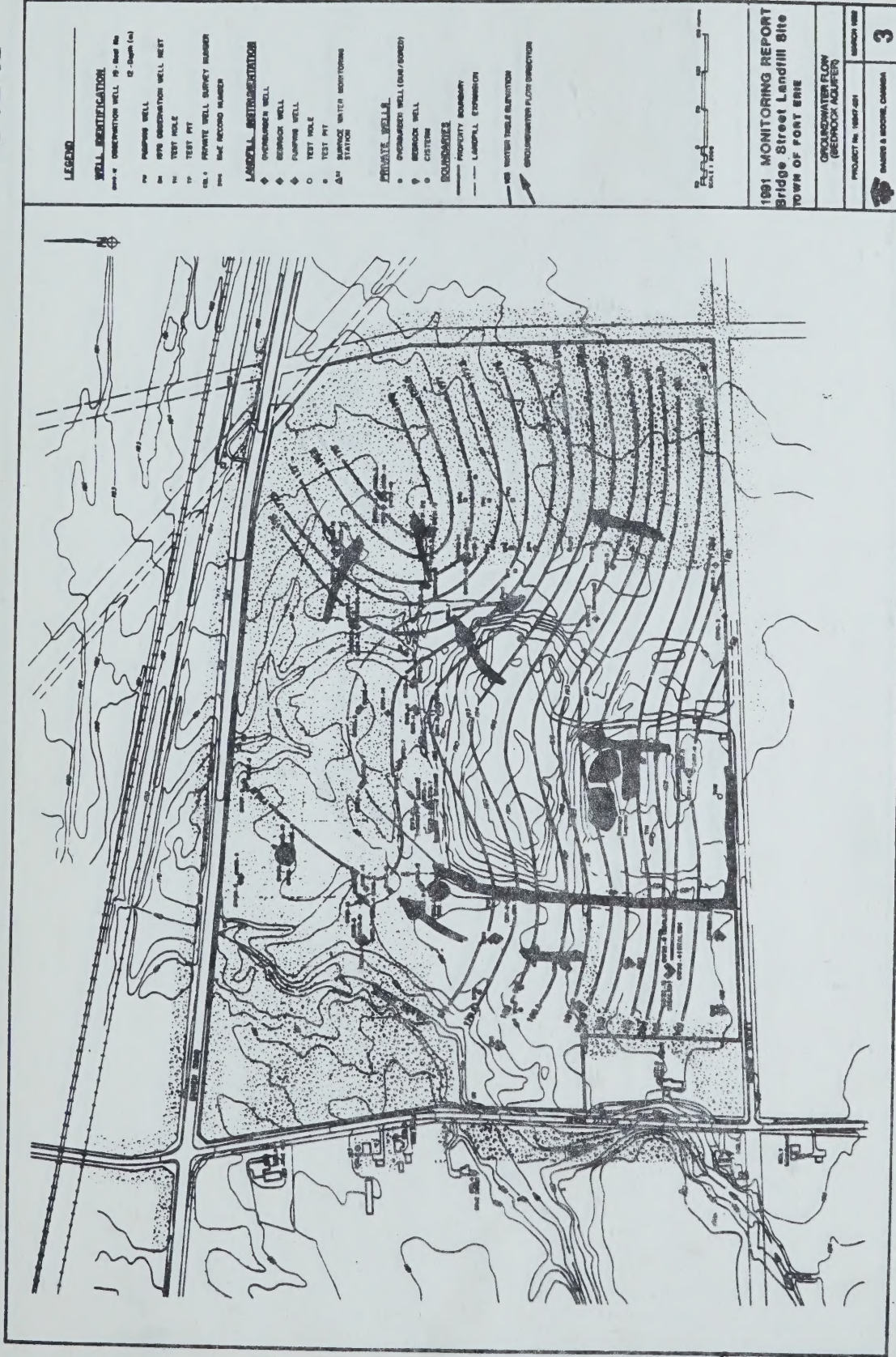
morison beatty limited
consulting engineers and hydrogeologists

4-4



PRIVATE WELL SAMPLING







SIDER
MUELLER
ANNERUD
LAM
MACRAE
FLETCHER
GILIFORTE
ISOKAIT (1)
ISOKAIT (2)

Table 7

Summary of Private Well Water Quality

July 1991										
Parameter	M.O.E. Objective (mg/L)	PW-a	PW-b	PW-c	PW-d	PW-e	PW-f	PW-g	PW-h (1)	PW-i (2)
Calcium	200	203	104	100	304	581	597	568	557	80.3
Chloride	250	44.8	51.4	43.8	75.4	162	50.3	163	27.4	14
Sodium	20	28.4	28.4	29.3	26	65.5	21	70.9	10.8	16.6
Sulphate	500	731	192	92.8	700	1370	1440	1340	1410	70
Nitrate	10	1.5	0.9	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	13.6
Iron	0.3	1.63	1.48	1.36	1.01	3.04	2.25	1.38	2.17	0.08
Manganese	0.05	0.03	0.02	0.01	0.01	0.04	0.01	<0.01	0.02	<0.01
Phenol	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

PW = Private Well

PW-a = Sider

PW-b = Mueller

PW-c = Annerud (Bergeron)

PW-d = Lam

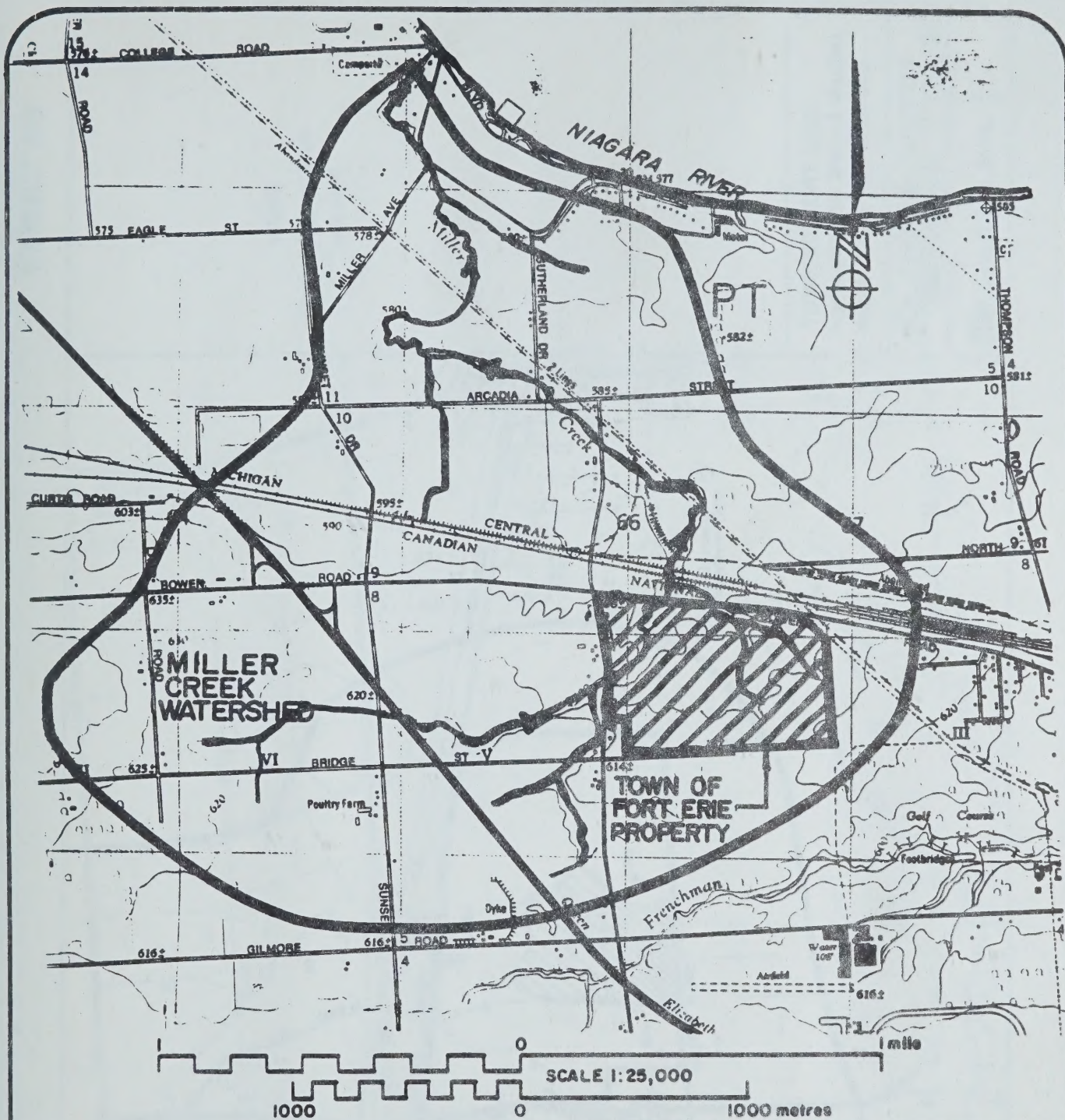
PW-e = MacRae

PW-f = Fletcher

PW-g = Giliforte

PW-h = Isokait (1)

PW-i = Isokait (2)



EP-92-01

EXHIBIT #19

**TOWN OF FORT ERIE
Hydrogeologic Impact Studies
BRIDGE STREET LANDFILL SITE**

WATERSHED MAP

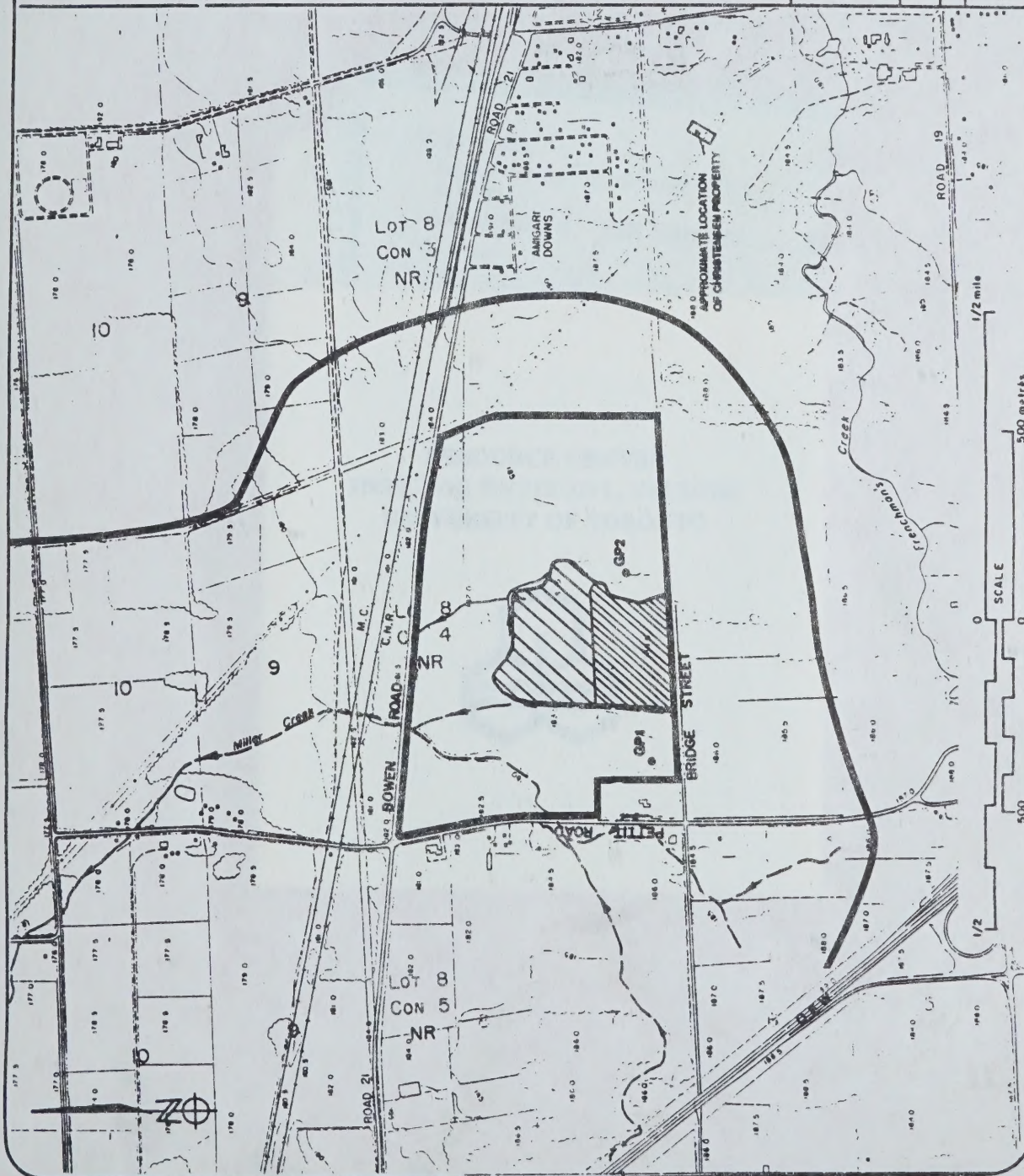
PROJECT No. 248-861

SEPT. 1986



morrison beatty limited
consulting engineers and hydrogeologists

4-2



LEGEND
 ——— DRAINAGE DIVIDE
 ● GP1 GAS PROBE

TOWN OF FORT ERIE
 Hydrogeologic Impact Studies
 BRIDGE STREET LANDFILL SITE

CHRISTENSEN PROPERTY
 PROJECT NO. 24915-003
 AUG. 1982

Dames & Moore, Canada

CAZONEA 93E01

Ontario. Environmental Assessment Board.
EP-92-01

TOWN OF FORT ERIE - BRIDGE STREET LANDFILL... 199

**RESOURCE CENTRE
INST. FOR ENVIRON'L. STUDIES
UNIVERSITY OF TORONTO**



